

# MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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## INTRODUCTION.

The MONTHLY WEATHER REVIEW for October, 1899, is based on reports from about 3,024 stations furnished by paid and voluntary observers, classified as follows: regular stations of the Weather Bureau, 170; West Indian service stations, 10; cotton region stations, 127; corn and wheat region stations, 133; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,238; Army post hospital reports, 27; United States Life-Saving Service, 14; Southern Pacific Railway Company, 96; Canadian Meteorological Service, 32; Mexican Telegraphic Service, 20; Mexican voluntary stations, 7. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Senor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Señor A. M. Chaves, Director-General of Mexican Telegraphs; Mr. Maxwell Hall,

Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; and Capt. J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

## FORECASTS AND WARNINGS.

By Prof. H. B. GARRIOTT, in charge of Forecast Division.

The most important storm of October, 1899, advanced from the west part of the Caribbean Sea along the Atlantic coast of the United States from the 28th to the 31st. For several days preceding the 28th unsettled weather had prevailed over the Greater Antilles and the western Caribbean Sea, and a marked barometric gradient between that region and an area of high barometer over the southeastern part of the United States caused high northeasterly winds over southern Florida, western Cuba, and adjacent waters. During this period Gulf and Atlantic coast shipping interests were advised of the conditions which prevailed, and careful watch was kept for a storm development which, at this season, these conditions favored. The evening reports of the 27th showed the looked-for storm development south of central Cuba, and storm signals were ordered at Key West and Miami, Fla., with the information that the center of the disturbance would probably move northward during the next twenty-four hours and cause high northeast winds over southern Florida and western Cuba. Similar advices were telegraphed to all Florida ports. During the 28th the storm signals were extended along the Atlantic coast to Jupiter, Fla., and the Bureau of Navigation, Navy Department, the Philadelphia and New York Maritime Exchanges, and Atlantic and eastern Gulf shipping interests, and also the Colonial Government of the Bahamas, were advised that the Caribbean Sea disturbance was approaching the south coast of central Cuba and that dangerous northeast

gales were indicated for the southern Florida and west Cuban coasts, and southeast gales for the east Cuban coasts. The morning of the 29th south Atlantic and east Gulf ports were notified that the storm was moving northward over central Cuba, and in the evening of that day storm signals were ordered as far north as Norfolk, Va., with the information that the storm had advanced to a position east of Key West, Fla., and that during the following day northeast gales would prevail from Virginia southward, and that northeast gales would shift to northwest over the Florida Peninsula. During the 30th the center of disturbance moved northward, and in the evening was central off the Carolina coast. On the morning of the 30th the display of storm signals was extended to Sandy Hook, N. J., and advisory messages regarding the character and course of the storm were sent northward to Boston, Mass. The morning reports of the 31st showed a marked increase in the intensity of this storm, and coast interests along the middle Atlantic and south New England coasts were notified that dangerous northeast gales might be expected. During the northward passage of this storm severe gales were encountered along the south and middle Atlantic and south New England coasts.

In Cuba and Jamaica the feature of the storm was the exceptionally heavy rainfall. In Florida, Georgia, and South Carolina no special damage was caused, although dangerous gales prevailed off the coasts. At Charleston, S. C., the wind